

### **REMARKS**

In response to the Office Action mailed October 14, 2008, Applicant respectfully requests reconsideration. To further the prosecution of this application, each of the rejections set forth in the Office Action has been carefully considered and is addressed below. The claims as presented are believed to be in condition for allowance.

Claims 1-21 were previously pending in this application. No claims are amended, added or canceled. As a result, claims 1-21 remain pending for examination, with claims 1, 8 and 15 being independent. No new matter has been added.

#### **Claim Rejections Under 35 U.S.C. §103**

Independent claims 1, 8 and 15 are rejected under 35 U.S.C. §103(a) as purportedly being obvious over an article entitled "TASK Forces: Distributed Software for Solving Problems of Substantial Size," Proceedings of 4<sup>th</sup> Software Engineering, September 1979, to Jones et al. ("Jones"). Applicant respectfully traverses this rejection, as each of independent claims 1, 8 and 15 patentably distinguishes over Jones.

#### **A. Brief Overview Of Embodiments Of The Invention**

Computer software and hardware operations, especially those that involve complex interactions between different computers such as those supporting various networking protocols and distributed transactions, often have to be extensively tested to ensure that they function properly (see Applicant's specification at, e.g., ¶[0002]). Typically, to test a given type of computer interactive operation, a set of test computers are chosen to run a test case that includes a sequence of tasks to be performed by different test computers in an interactive fashion (¶[0002]).

In conventional frameworks, the execution of the test run is controlled by a central controller, which proceeds through the sequence of tasks one by one, so that a first test computer is instructed to carry out one task, then the controller receives the result of that processing and instructs another test computer to carry out the next task in the sequence based on the outcome of

the previous task (§[0002]). The use of a centralized controller to control the automated execution of distributed computer tasks places a significant constraint on the availability of test computers, as each test computer is required to form a communication link with the centralized test controller to receive instructions and report task execution status and results (§[0003]).

Some embodiments of the invention provide a framework for automated dynamic execution of distributed tasks without the need for a centralized controller to coordinate the execution of the tasks (§[0004]). For example, in some embodiments, the execution of a sequence of tasks is coordinated through the cooperation of the peer computers selected to perform the tasks (§[0004]). Each computer includes an “execution agent” for handling the execution of its tasks (§[0004]). A first computer in the group of peer computers may receive execution instructions, which it then passes on to other peer computers so that each computer knows which tasks to perform and their tasks’ relationships to those performed by other computers (§[0004]). The execution agents of the peer computers communicate during execution to synchronize the execution of the tasks and determine execution status (§[0004]).

The foregoing summary is provided to assist the Examiner in appreciating various aspects of the present invention. However, this summary does not necessarily apply to each independent claim, and the language of each independent claim may differ in material respects from the summary above. Thus, Applicant respectfully requests that careful consideration be given to the language of each independent claim, and they each be addressed on its own merits, without relying on the summary above. In this respect, Applicant does not rely on the foregoing summary to distinguish any of the claims over the prior art, but rather relies only upon the language of the claims and the arguments presented below.

B. Independent Claims 1 and 8

Each of independent claims 1 and 8 includes limitations directed to receiving, *by a first computer in a group of peer computers*, a set of execution instructions for the peer computers. The execution instructions include a sequence of tasks to be performed and an automatically, without user action, determined assignment of the tasks to the peer computers. The first computer forwards

execution instruction information to the other peer computers in the group, such that each peer computer is informed of tasks assigned thereto in relation to tasks assigned to the other peer computers.

The Office Action contends that Jones satisfies all of these limitations. This contention is unsupported by the reference, as Jones fails to disclose or suggest a number of the limitations recited by each independent claim.

First, Jones fails to disclose or suggest forwarding, *by a first computer in a group of peer computers* execution instruction information to the other peer computers in the group, as required by each of claims 1 and 8. The Office Action (i.e., on pp. 2-3) purports to reproduce the limitations of claims 1 and 8, but omits the portion italicized above. Jones fails to satisfy the italicized portion, as Jones discloses (in a passage cited by the Office Action) a “coordinator” which forwards execution instructions to a group of servers and manages the processing performed thereby (p. 326). Jones says nothing about the coordinator being a peer computer in a group of which other peer computers form a part, and in fact suggests the opposite in disclosing that the coordinator oversees the processing performed by a number of servers. In this respect, Jones discloses that the coordinator “coordinates server actions,” “handles the I/O associated with the imaging processing tasks,” “create[s] the server module, [...] create[s] a number of server processes, [...] instantiate the communication mailboxes and [...] access the image slices” (p.326). Jones simply fails to disclose or suggest anything at all relating to execution instruction information being forwarded by one of a group of peer computers to other computers in the group, as required by each of claims 1 and 8. Indeed, Jones discloses nothing more than the type of centralized controller which Applicant describes as being implemented in conventional frameworks (see, e.g., ¶¶[0002]-[0003] of Applicant’s specification).

In addition, Jones fails to disclose or suggest each computer in the group of peer computers being informed of tasks assigned thereto in relation to tasks assigned to other computers, as required by each of independent claims 1 and 8. In this respect, Jones discloses that the coordinator oversees processing performed by various servers, and says nothing about any of the servers being informed of the relationship of its assigned tasks to those assigned to other servers.

Further, Jones fails to disclose or suggest execution instructions which include *an automatically, without user action, determined assignment of tasks to peer computers*. On the contrary, Jones discloses that “human assistance is required” to determine the assignment of tasks to computers (p. 322, col. 2). Thus, not only does Jones not satisfy this limitation of claims 1 and 8, but Jones explicitly discloses a system which cannot satisfy it.

Accordingly, each of claims 1 and 8 patentably distinguishes over Jones, such that the rejection of each of claims 1 and 8, and of the claims that depend respectively therefrom, under 35 U.S.C. §103(a) as purportedly being obvious over Jones should be withdrawn.

C. Independent Claim 15

Independent claim 15 recites a computer system comprising a plurality of peer computers each having an execution agent programmed for receiving a set of execution instructions for the peer computers including a sequence of tasks to be performed and an automatically, without user action, determined assignment of tasks to the peer computers. The execution agent is also programmed for forwarding, to the execution agents on the other peer computers, execution instruction information such that each peer computer in the group is informed of the tasks assigned thereto in relation to tasks assigned to the other peer computers.

It should be appreciated from the discussion above relating to claims 1 and 8 that Jones fails to disclose or suggest (1) an execution agent on each of a plurality of peer computers programmed for forwarding, to execution agents on the other peer computers, execution instruction information, (2) each peer computer in a group of peer computers being informed of tasks assigned thereto in relation to tasks assigned to the other peer computers, or (3) execution instructions which include an automatically, without user action, determined assignment of tasks to the peer computers.

Accordingly, claim 15 patentably distinguishes over Jones, such that the rejection of claim 15, and of the claims that depend therefrom, under 35 U.S.C. §103(a) as purportedly being obvious over Jones should be withdrawn.

**CONCLUSION**

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 23/2825, under Docket No. M1103.70583US00.

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Respectfully submitted,

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